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THE

OPHTHALMIC REVIEW

A MONTHLY RECORD OF OPHTHALMIC SCIENCE

EDITED BY

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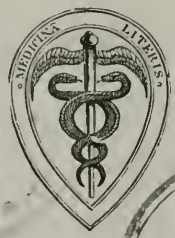

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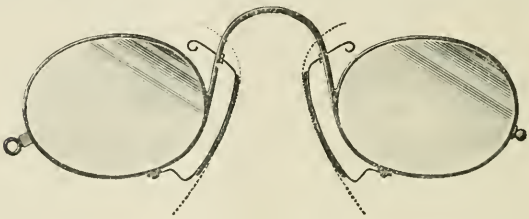

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REPARATION OF STAPHYLOMATOUS CORNEÆ.

A Series of Cases.

By Kennetii Scott, Cairo, Egypt.

It is often possible in many cases of markedly staphylomatous corneæ, where the other structures of the eye are practically intact, to excise a portion of the staphyloma, and then, by the use of sutures, to convert into a simple leucoma, which may be eventually tattooed, what was previously an unsightly, irritable and irritating deformity; it is also possible, in some of the cases, to restore a certain amount of useful vision by means of an artificial pupil.

I was induced to begin this series of cases by reason of the great reluctance on the part of patients, especially female ones, to consent to the removal of a damaged or useless globe, and also by the extremely rare occurrence of sympathetic irritation or inflammation of the other eye. Of the 6683 eye-patients treated by me at the hospital here since January, 1890, there have only been three cases of sympathetic uveitis—equal to ·04 per cent.

There were adhesions of the iris to the cornea in each of the following cases, but there was no undue irritation of either eye in any of them, either immediately after the operation or during the subsequent period when they were under observation.

No rule was laid down as to the shape of the portion of cornea to be excised, but each case was judged in-

Ophthal. Review, Vol. XII., No. 143, Sept., 1893.

dividually on its own merits, and a part removed of such a size and in such a manner as seemed most likely to give a good result. The following precautions, however, are advisable, and were observed in every case :—

A knife is used in preference to scissors in removing the corneal tissue, because the cut is cleaner, and the squeezing action of scissors is, I think, apt to be detrimental to the already lowered vitality of the tissue. Care is taken, as far as possible, to avoid the direct apposition of the free corners of flaps of tissue ; injury of the lens is also guarded against, although when it has been unavoidably wounded there seems to be no interference with the recovery of the cornea.

The operation is performed in the following manner. Having decided on the shape of the piece of cornea to be removed, the base of the staphyloma is transfixed from side to side by a linear cataract knife, which is then made to cut its way out by a gentle sawing motion, and thus form one of the flaps ; the piece of cornea which is to be excised is then seized with fixation or strong iris forceps, and the remaining incisions made. A fine silk suture, armed with a small curved needle at either end, is now introduced through the wound aperture, and entering the cornea on its posterior surface is made to penetrate it, by pushing the point of the needle against a small piece of antisepticised cotton-wool placed over its point of exit ; this is likewise done with the other needle of the suture at a corresponding point on the opposing flap. The stitches are tied very lightly, so as merely to approximate the sides of the incision without exerting any undue tension. Atropine in solution is instilled, and the dressing changed night and morning. This is repeated for a period of from four to six days, when the stitches are removed.

In three of the cases (Nos. 4, 10, 12) an artificial pupil was made a week to ten days before the staphy-

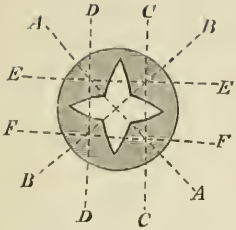

FIG. 1.—L. E.

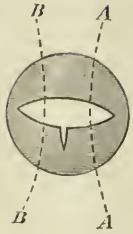

FIG. 2.—R. E.

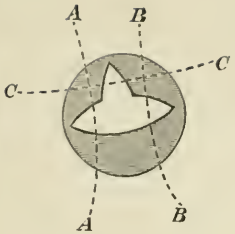

FIG. 3—R. E.

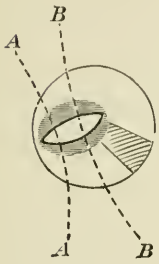

FIG. 4.—L. E.

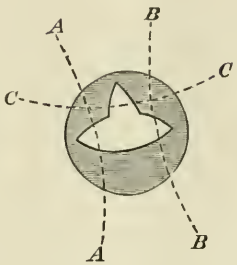

FIG. 5.—R. E.

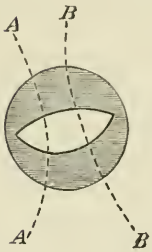

FIG. 6.—R. E.

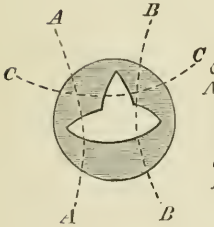

FIG. 7.—R. E.

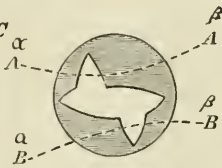

FIG. 8.—L. E.

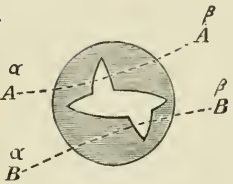

FIG. 9.—L. E.

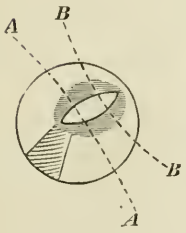

FIG. 10.— R. E.

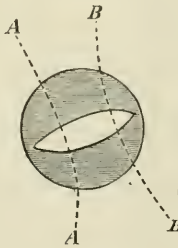

FIG. 11.—R. E.

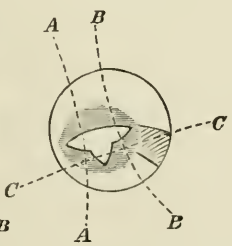

FIG. 12.—L. E.

loma, which of course was a partial one, was operated on.

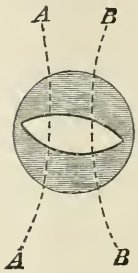

FIG. 13.—L. E.

Thirteen Diagrammatic Sketches of Cornea, showing portion of tissue removed, and position of stitches. (Nos. 4, 10 and 12, had visual iridectomy performed).

I append a rough sketch of the series of thirteen cases, showing the shape of the portion of cornea removed, and also the position of the stitches. Every one of the cases made a good recovery. Case No. 2 was seen twelve months after operation, and each of the others remained under observation for at least six weeks, without any undesirable symptoms becoming manifest.

Although Case No. 1. made a good recovery, it is the very reverse of what the operation should be—all the corners of the flaps meet together, and there are too many sutures, some of which sloughed out. In Cases No. 8 and 9, the α-ends of A and B. sutures were first tied together, and then the β-ends.

The site of operation does not approach the region of the ciliary body, which may probably account for the hitherto invariable absence of after-irritation. The series of cases began in September, 1891, and, so far, the results show nothing which should deter any surgeon from performing the operation in every suitable case. With three exceptions the patients were females, the youngest being a girl aged 7 years, and the oldest a man aged 35 years.

RETINITIS PUNCTATA ALBESCENS.[1]

By Myles Standish, M.D.

Ophthalmic Surgeon, Massachussetts Charitable Eye and Ear Infirmary, &c.

Cases of retinitis punctata albescens are not uncommon, and yet what we really know about the condition seems to be very little. In no text-book to which I have been able to obtain access is there a clinical history of the disease, or much of anything in regard to the etiology or prognosis. In fact the literature of the subject is surprisingly small for a condition which presents such a striking physical picture to the ophthalmoscope.

In practice the majority of persons suffering from this condition come complaining of some discomfort in the use of the eyes, and the white, rounded, glistening spots are discovered in the retina in the course of the examination. The patient is kept under observation some weeks or months, comfort in the use of the eyes gradually returns, and the case finally drifts off and is seen no more, but without the white, rounded spots having disappeared from the retina. Even what the substance is that produces the appearance is still undetermined.

With this condition of our knowledge any case which will help to build up the clinical history should be put upon record. The case that I am about to report very briefly, apparently fills up the clinical history of these cases as far as the acute stages are concerned, and is, I am sure, unusual in that particular.

A. B., a strong, athletic looking man, of 31 years, was first seen by me on the 22nd of April, 1892. He said his

[1] Read at the Annual Meeting of the American Ophthalmological Society, New London, 1893.

eyes did not give him much trouble, that he had no pain or headache, but that he had noticed for several weeks that he did not see as well with the right eye as before. Vision of R. = 20/20. The vision in the left eye was very little if any better, and as no change was made out in the fundus with the ophthalmoscope he was told that there was nothing to be seen, and that it was probably of no importance, but to return if he became worse.

I did not see him again until early in October, 1892, when he returned and reported that he had been away upon business for some months, but that his eye had grown steadily worse, especially in the month immediately preceding. Upon examination I found vision of the right 20/100. Examination with the ophthalmoscope showed that the region about the macula was hazy and lighter in colour than the rest of the fundus. About the outer edge of this light area the vessels had one or two rather gradual wave-like bends, and there was absolutely nothing else to be seen to account for his great loss of vision. I ordered him one-sixth of a grain of pilocarpine at night, but as he almost immediately went away upon another business trip he only took the medicine a few times. The next time he came under observation was on the 28th of October when he was seen by Dr. W. D. Hall, from whose notes I am kindly permitted to extract the following account of the ophthalmoscopic appearances at that time. "There is exudation and infiltration about the nerve, and some of the vessels are obscured: at the macula there is turbidity, and a few shining white opaque spots." The vision was about the same as when seen by me some three weeks earlier, *i.e.*, vision R.E. = ·2. He was next seen by me a week later when the exudation and infiltration had quite disappeared. No vessels were covered, but the rounded white spots of retinitis punctata albescens were numerous

and very characteristic. They were placed as usual all about the macular region, and more numerous in the area between the macula and the nerve, as is also generally the case. Vision of R. = 20/30 with + 4 D. Since that time there has been very little change, and no further improvement in vision; from which it would seem that the white spots are in all probability the results of a preceding retinitis, and are some form of degenerative change.

The etiology of the case was inquired into with no definite result. The patient had never had syphilis, rheumatism, or any acute fever; there was no nephritic disease, and so far as he knew he was perfectly well otherwise. The only ocular history was that a year before he was first seen by me he had been in an electric power station when some accident happened, and had seen a very powerful electric arc caused by a break in the machinery. The result had been that for a moment he had been blinded, and saw yellow spots for the next twenty-four hours, after which he had noticed nothing unusual. It seems hardly probable however, that a retinitis should supervene a year afterwards from any such cause; moreover, both eyes were exposed to this light, and only the right has had the retinitis.

I will not attempt to draw any conclusion from one case, but offer it as a study that may be helpful some day when the complete clinical picture of this disease is drawn.

SUPPRESSION OF THE VISUAL IMAGE.[1]

By Walter B. Johnson, M.D.
Paterson, N.J.

In convergent strabismus, unless the squint be of the alternating variety, there is present an amblyopic condition affecting the squinting eye, in which there is more or less marked diminution of the vision.

Hypermetropia was thought by Donders and many other writers to be the most frequent cause of convergent squint, constantly exciting excessive efforts at accommodation, which resulted in convergence, confusion of images and subsequent mental suppression of the visual image of one eye, finally terminating in an amblyopic condition, in which the ability to see varied considerably, vision being more acute in some cases than in others.

It has also been claimed by Schweigger, Alfred Graefe and others that amblyopia is not caused by squint, but exists as a primary or congenital condition probably caused by some change, structural or otherwise, in the eye itself or in the nerve centres. This produces convergence in consequence of confusion of images caused by deficient sight.

The variety of amblyopia or suppression of the visual image in question is apparently a purely physiological condition. Ophthalmoscopic examination indicates a perfectly normal fundus, although the eye is generally hypermetropic. The nerve centres must certainly be affected by the continued mental suppression of the visual image and their functions finally practically destroyed. Unless an operation be performed, which results in re-establishing binocular fixation and fusion of

[1] Read at the Annual Meeting of the American Ophthalmological Society, New London, 1893.

the retinal images, the amblyopia persists, being a progressive mental condition made permanent in the nerve centres by their loss of use. Amblyopia may be and sometimes is overcome, when it is first established, by a proper correction of the visual defect. The commencing squint and the increasing loss of sight may thus be entirely prevented without resort to operative interference.

Squint generally appears at an early age, when satisfactory examination is not practical; the amblyopic condition may be present but not demonstrable. For that reason the time of loss of vision cannot be definitely ascertained, and the question of the probable presence of amblyopia before the onset of the squint, or of its onset as a result of the squint is very difficult of solution and proof. It is presumed that an amblyopia may come on as a result of squint and persist permanently. Even though the eyes are brought to a state of apparently perfect parallelism by operation, the vision in the amblyopic eye rarely, if ever, becomes equal to the vision of the fellow eye. The squinting eye cannot enter into the visual act, and has no ability to take cognisance of any object which appears on its visual axis; the power of suppressing images has become a fixed condition and the vision decreased to such an extent that the eye is practically sightless.

The case here reported, which presents the character and history of many other cases of concomitant convergent strabismus, shows conclusively that whatever the change which led to the loss of vision may be, it was not structural, either in the eye-ball or the nerve centres, but was in all probability a pure case of amblyopia which resulted from the long-continued mental visual suppression induced by the confusion of images following the loss of parallelism of the eyes, and that the amblyopia was in all probability the result of the squint.

That the amblyopia should have entirely disappeared after the loss of the fixing eye when all the existing conditions were changed, indicates the certainty that in this case amblyopia was what we may call a functional condition, and not a disease. The remaining eye —the previously amblyopic one—which had been apparently almost sightless, gradually increased its power of vision after instruction and exercise designed to assist it, until perfect sight resulted.

T. McK., age 19, June, 1887, file forger, has been cross-eyed since he was 3 years of age, and states that never during his recollection has he been able with the left eye to see any object clearly so as to define its character. He has a manifest hypermetropia, and constantly fixes with the right eye.

R. V. = 20/15 Hm. = 1.25 D.

L. V. = fingers at 6″; no improvement with glasses.

He applied for treatment, hoping to have his squint corrected by tenotomy.

June 13, while working at forging, a hot file flew from his tongs and struck him in the right eye. Two hours after the injury the eye-ball was examined; a large wound of the globe was discovered which had extremely ragged edges and involved almost all the globe, cutting through the cornea, iris, lens and sclerotic in the ciliary region. Enucleation was advised and performed in the usual manner in the afternoon of the same day.

June 18, the patient was doing nicely and stated that he believed he could see better. L. V. = fingers at 3′.

Ophthalmoscopic examination discloses a perfectly normal fundus and a hypermetropia of 1.5 D.

June 19, was first instructed in localising letters on the test card. His field of vision was limited to any single object upon which his attention was fixed; if placed directly in front of a test card with the region of the macula in the axis of vision he could see 3/200. If allowed to read the letters on a plane of his own choos-

ing, bringing the hypersensitive retinal spot into use and wearing + 2 D., the test card would appear to be thirteen inches to the left of its actual place of hanging, but he was able to read 2/70, and as his instruction was continued he read 2/15, and at times 2/12, and 2/8, the letters being apparently placed 10 inches to the left of their actual position. He finally read 4/15.

June 20. After fifteen minutes' instruction he was able to read 20/30 with + 1.25 D., on a new test card, not seen before, stating that in order to see the card he was obliged to look to the left of it, although he apparently saw it directly in front of him; he could read 20/200 without a correcting glass; although there are six cards on the test frame he insisted that he could only see one of them at a time, and that in its false position.

June 21 to 25. He has been instructed daily, with constant improvement in the field of vision and in the rapidity with which he could localise the letters and cards; + 1.75 D. had been ordered and worn constantly.

June 26. He is able to select letters on any of the test cards and now localises the card in its exact position and can see all six cards at once without special effort. His vision for near was tested for the first time since the loss of his right eye, with + 1.75 D. He was able to read Jæger 9, but in pointing to a word on the test paper with a pencil he would point considerably to the left of its actual position.

July 1, the improvement has continued daily since last date; he can read 20/15 with his correcting glass and Jæger 1, at 12 inches, localising the words with a pointer in their correct place. He declined to accept the + 1.75 D. which he had been wearing, and was ordered + 1.25 D. His visual field is normal.

January 23, 1890, nearly three years after the loss of his right eye. Vision: = 20/15 with or without + 1.25 D. He reads Jæger 1, with or without any correct-

ing glass, although he prefers his + 1.25 D for reading. He never has had pain or discomfort or any blurring of his sight since last examined, and has worked at his trade constantly since that time.

ALFRED MICHEL (Bern). The Accommodation Question. *Klin. Monatsblätter f. Augenheilk, July and August*, 1893.

The subject of dynamic lenticular astigmatism has been discussed so frequently, and from such various standpoints, that the observations made by Michel, at the suggestion of Prof. Pflüger, cannot fail to interest specialists. These observations were made with the intention of ascertaining to what extent his eye was able to overcome an astigmatism, induced by placing before it cylindrical glasses of different powers. Extreme care was taken in all the observations, to avoid any conscious or unconscious action of the eyelids, and the effect of changes in the corneal curvature was neutralised in one series by one of Sulzer's contact lenses. The action of the pupil was eliminated by cocaine in another series. Javal's optometer supplied the test glasses, and for a test object the sunrise figure of Snellen, or that supplied by Curry and Paxton, with Couper's optometer, was employed. Michel describes himself as a thoroughly sound man, aged 28, with a myopia of — 2 D. unchanged for 14 years, an accommodation of 9 D. and a corneal astigmatism of 0.5 D. in his right eye, which was the eye used in all the experiments.

The following series of observations were made:—

I. Test object at $2\frac{1}{2}$ m. distance.

II. Ditto with eye under cocaine.

III. Test object at far point (2 m.), of partially corrected eye (— 1.5 D.)

IV. The small test object, at far point of uncorrected eye, viz., 50 cm.

V. Experiments with convex glasses.
VI. Experiments with contact glasses.
VII. Experiment with eye under homatropine.

I. Test object at $2\frac{1}{2}$ m. Refraction corrected by — 2 D. sph., Michel found he could overcome — cyl. glasses in all the four meridians he tested ; viz., horizontal, vertical, and 45° to nasal and to temporal side. 0.25 was neutralised at once in each meridian, 0.5, and 0.75 took much longer to neutralise in the slanting meridians than in the vertical and horizontal. The maximum glass overcome in these slanting meridians was 1 D., while 1.25 could be overcome in the vertical and horizontal.

II. Same as No. I., but eye under cocaine. Cylinders up to — 1 D., were overcome in the four meridians, but usually only after a considerably longer time, while 1.25 D. could only be relatively overcome in any meridian.

III. Cylinders up to 1 D. were overcome in all meridians, and 1.25 in the vertical and horizontal. The time necessary was somewhat longer than in No. I., probably because the test object being at the far point, no spherical accommodation was employed (in No. I., 0.4 D. of accommodation was a necessity), and it is possible that its exercise may assist in the effort to produce cylindrical accommodation.

IV. The small test object at 50 cm., *i.e.*, at the far point ; same results as in former series ; 1 D. overcome in all meridians, and 1.25 also in vertical and horizontal. A longer time required as in former series, to overcome the higher glasses.

All these experiments were made with concave cylinders; the next series was undertaken with convex cylinders.

V. The test object at the far point of the higher refracting meridian, *i.e.*, the meridian at right angles to the axis of the convex cylinder. Same results as before. 1 D. overcome in all, and 1.25 D. in vertical and horizontal meridians.

VI. Experiments with Sulzer's contact glass. Michel found that the contact glass employed (32 D.) overcorrected his myopia, so that + 6 sph. had to be added for perfect spherical correction. It also corrected his corneal

astigmatism, and thereby rendered manifest his compensatory lenticular astigmatism, so that — 0.5 cyl. axis vert. has to be added to complete the correction. Under these conditions, cylinders up to 1 D. were overcome in all meridians, and 1.25 D. in the vertical and horizontal meridians, just as in the other experiments.

VII. Under homatropine, which paralysed 4 D. of his accommodation, Michel could overcome cylinders of 0.75 in the vertical and horizontal meridians, and of only 0.5 in the slanting meridians.

Two cases of astigmatic accommodation are added, as an appendix to the paper.

J. B. S.

J. OTTAVA (Budapesth.) **On the Etiology and Treatment of Trachomatous Inflammation of the Eyes.** *Centralblatt für praktische Augenheilkunde. July*, 1893.

In the first of these two short papers, Ottava promulgates somewhat peculiar views as to the etiology and spread of trachoma. His opinion is that "trachoma," that is, the presence of granular swellings of the conjunctiva, is a symptom common to numerous forms of inflammation, and is not itself a disease; the term trachoma is no longer sufficient as a diagnosis. Some time ago he published five cases in which he believed trachoma to be due to gonorrhœal infection, and to these he now adds another. In 1887 he was consulted by a girl, in whom, however, he found nothing amiss with the eyes except hypermetropia. A few days later, however, she acquired gonorrhœa, and came again to the author on account of violent blennorrhœa of the left eye, which had become accidentally infected. The cornea suppurated, the eye shrank, and at the same time all the signs of trachoma

developed. "From vexation at desertion by her lover," the patient infected her right eye, in which, in a few months, trachoma showed itself. On the same occasion on which she had acquired gonorrhœa, the girl had also become pregnant, but the child for two years, during which a careful daily watch was kept, remained free from disease. Thereafter both eyes became affected, however, and in a few weeks showed every sign of trachoma.

Further to illustrate his views on the etiology of trachoma, Ottava relates the following cases : (1) One cornea of a boy of 10 years was infiltrated, and both conjunctivæ were thickly studded with brawny trachoma granulations ; though, according to the statement of the boy's mother, all his brothers and sisters used the same washing apparatus and towel as he, none became infected. The boy was markedly scrofulous. (2) A young man, aged 23, had severe trachoma in each eye, which resisted all treatment. After a time it was noticed that he was suffering from psoriasis of the palms, and in other positions ; under inunction both psoriasis and trachoma disappeared without further treatment. Intermission in the treatment caused improvement in the trachoma to cease ; its resumption led to complete cure. "It follows from the records of these cases that 'trachoma' indicates a symptom only, and does not constitute a diagnosis, because in the first case trachoma was caused by the gonorrhœal virus, in the second by scrofula, and in the third by syphilis." It is to be feared that Dr. Ottava has not produced sufficient evidence in support of his contention. The fact, for example, that the mother of a scrofulous boy who suffered from trachoma did not become infected, is hardly sufficient proof that in his case the disease was directly connected with scrofula, and was non-contagious.

In treatment the author recommends the use of a spatula made of ivory, vulcanite, or wood, such as he employs. The instrument should be 10 cms. in length, about 12 mm. in breadth at the wider and 9 at the narrower end, and 2 mm. in thickness. At the broader end the spatula is bent slightly on the flat, and roughened on the convex

surface for about 15 mm. Cocaine having been applied, the upper lid is turned over, and the spatula pushed well up into the *cul-de-sac*, the roughened surface forwards. Gentle but firm rubbing movements are made in a horizontal direction, all parts being gone over, but specially those where the granulations are largest and hardest. This may be continued for half a minute, and then other parts of the conjunctiva similarly treated, no part being allowed to escape. The smaller end of the spatula is useful when the space is limited by cicatrices, &c. The parts are then immediately painted with solution of silver nitrate, or of bichloride of mercury, or touched with the solid sulphate of copper. The pain caused by this procedure is only slight; the little bleeding which sometimes occurs is unimportant. The effect of the massage is to burst the thin-walled granulation sacs, whose contents, if sufficiently fluid, then escape; the deeper lying granules become smaller, come to the surface, and disappear. The conjunctiva heals so far as is possible in trachomatous disease, and where it had been destroyed is replaced by cicatricial tissue, which has none of the bad qualities which trachoma, left to itself, produces. It is soft and does not contract. Pannus, provided it be not formed of connective tissue, clears away without farther treatment.

An eye affected with inflammatory trachoma should not be subjected to this treatment, as a good deal of injection results; otherwise the author has seen no complication follow. Massage seems best used every third day, painting with above-mentioned fluids being conducted between times. The author is unusually modest in his estimate of the value of his method, for he says, "Recent cases heal quickly, longer standing ones only slowly. So much can I decidedly claim, that by my method I achieve a better, quicker, and surer result than by other methods which I have tried." The method is certainly simple, can be conducted under cocaine, needs no complicated instrument, injures and removes no healthy tissue, and can do no harm. It seems a sensible mode of applying an old-established and well-tried principle.

W. G. Sym.

CHIBRET (Clermont Ferrand). Remarks on the Treatment of Ocular Syphilis. *Annales d'Oculistique. July*, 1893.

In this short article Chibret formulates his conclusions concerning the treatment of ocular syphilis in its various manifestations, and as his opinions differ widely from those held by the majority of the medical profession, a brief notice of them seems desirable.

For the past ten years Chibret (following Galezowski) has been treating cases of ocular syphilis by hypodermic injections of cyanide of mercury; during the last two years he has tabulated his cases and has drawn certain deductions from the figures so obtained. He does not, however, publish his tables, nor does he state the number of cases upon which he has based his assertions.

The author set himself the following three questions, and answers them by the results he has obtained: (1) What is the best method of treatment, local or general, of ocular syphilis? (2) What are the advantages and disadvantages of the injection of soluble salts of mercury over other methods, especially that of inunction? (3) What is the therapeutic value of iodide of potassium?

(1) To ascertain the effect of *general* treatment Chibret chose cases of parenchymatous keratitis—a form of disease which can be easily watched, and its progress or retrogression measured by the effect upon visual acuity. He compared cases treated by mercurial inunction and by hypodermic injections of cyanide of mercury, and decides in favour of the latter, which he states is fifteen times more rapid in action than the former. The addition of iodide of potassium retarded recovery under both methods. Injections of the cyanide are superior to other methods of administration of mercury, whatever be the seat of the ocular lesion, whether in the cornea, iris, choroid, retina, or optic nerve, or causing ocular muscle paralysis.

Concerning *local* treatment, subconjunctival injections, recommended by Darier, give good results in cases of

interstitial keratitis only. If combined with general injections of cyanide, and the drug pushed to the limit of toleration, the results, according to the author, are wonderful. He appends brief notes of two cases. In syphilitic iritis, on the contrary, the local injection of the drug had no appreciable effect. In choroidal disease of syphilitic origin, Chibret agrees in the main with Darier's statements as to the good effect of subconjunctival injections.

(2) The advantages claimed for the employment of hypodermic injection of soluble salts of mercury, are that by this method such troubles as stomatitis, anorexia, &c., are avoided, and that it is easy to prevent or arrest severe mercurialisation with its attendant discomfort ; also that the dosage is much more exact than is possible when inunction is adopted. The disadvantages mentioned by the writer are, the necessity imposed upon the patient of a daily attendance, and a certain amount of pain caused by the injections.

(3) For many years Chibret has doubted the value of iodide of potassium in syphilitic disease, and from his recent observations he denies that it possesses any specific action whatever. He believes, with Melseus, that it prevents chronic poisoning by mercury in cases where the latter drug is given internally, but that its administration as an adjunct to injections of mercurial salts is useless or prejudicial.

The following are Chibret's conclusions: (1) The best general treatment of ocular syphilis in all its manifestations, consists in hypodermic injections of soluble salts of mercury, and specially of the cyanide. The local treatment varies according to the seat of the disease ; subconjunctival injections are useful in cases of corneal or choroidal disease, inefficient when the iris is involved. (2) The advantages and disadvantages of hypodermic injections have been already given. (3) Iodide of potassium has no specific effect upon syphilitic lesions. It facilitates the elimination of mercury and thus combats chronic poisoning by this drug. Its addition to mercurial treatment diminishes the specific action of the mercurial salt.

It is regrettable that the author has not published his statistics; the statements they have enabled him to make are very remarkable and sufficiently unorthodox to call for careful criticism. J. B. L.

D. BOERMA and K. WALTHER (Leipzig). Senile Decrease of Visual Acuity. *v. Graefe's Archiv.*, *xxxix.*, 2, *p.* 71.

The classical work upon this subject is that of Donders and de Haan, published in Donders' book on "The Anomalies of Refraction and Accommodation," nearly thirty years ago. The authors of the present monograph have now, on the suggestion of Professor Sattler, gone over the same ground, and it is interesting to compare their results with those obtained so many years ago, and, so far as we know, never since submitted to any independent revision. They examined nearly 1,000 individuals, but have rejected all but 400 of them on account of pathological changes in the eyeball. These 400 supplied 725 eyes for the purpose of the work, the ages of the individuals ranging from 40 to 80. The number of eyes examined in each five years of life was as follows:—41 to 45, 89; 46 to 50, 121; 51 to 55, 127; 56 to 60, 128; 61 to 65, 108; 66 to 70, 71; 71 to 75, 53; 76 to 80, 28. The numbers tested are therefore sufficient to furnish a fair average.

The average visual acuity (reduced to a common denominator) for each five years of life is as follows—for the five years ending at 45: $\frac{6.15}{6}$, at 50 $\frac{6.01}{6}$, at 55 $\frac{5.94}{6}$, at 60 $\frac{5.77}{6}$, at 65 $\frac{5.55}{6}$, at 70 $\frac{5.16}{6}$, at 75 $\frac{5.26}{6}$, at 80 $\frac{4.50}{6}$. It shows a steady but not perfectly regular decrease in visual acuity in each five years, the smallest being $\frac{0.7}{6}$ between 50 and 55, and the largest being $\frac{0.76}{6}$ between 75 and 80. There is also an increase of the visual acuity noted in com-

paring the ages of 70 with 75 amounting to $\frac{0.10}{6}$. There can be little doubt that the examination of a large number of eyes would show that this increase is to be accounted for by accidental circumstances in the particular individuals tested.

Donders gives averages for each ten years of life from 40 to 80. His figures reduced to the same common denominator compare with all those of our authors as follows :—

Age 40, Donders 6.10 ; B. and W. 6.10.
Age 50, Donders 5.40 ; B. and W. 5.86.
Age 60, Donders 4.30 ; B. and W. 5.30.
Age 70, Donders 3.90 ; B. and W. 4.95.
Age 80, Donders 3.30 ; B. and W. 4.16.

If all pathological eyes are excluded, the average acuity found by Boerma and Walther is still higher than is given above, viz., age 40, 6.10 ; age 50, 5.98 ; age 60, 5.66 ; age 70, 5.21 ; and at age of 80, 4.50. These figures differ from those of Donders in noting a higher visual acuity at advanced ages, and in not exhibiting a sudden decrease of acuity between the ages of 50 and 60. Our authors attribute these differences to the greater care taken by them to exclude pathological eyes from the statistics. The principal pathological changes found by them were minute opacities, or irregular astigmatism of cornea, and similar opacities and astigmatism of the lens. Besides these there were not infrequently opacities in the vitreous and pigmentary irregularities in the macular region.

J. B. S.

AMERICAN MEDICAL ASSOCIATION—SECTION OF OPHTHALMOLOGY.

MEETING AT MILWAUKEE, JUNE, 1893.

(*Continued from p.* 248).

Diseases of the Lacrymal Passages.—Dr. H. Gradle (Chicago) divided cases with lacrymal diseases into two classes according to the degree of lacrymation. In the one class the eye waters only when exposed to wind or dust or eye-strain—in other words, when the tear gland is called into special activity by any occasional stimulus. In the second class the weeping is continuous. There must be in these patients some morbid irritation which maintains the continuous flow of tears. This source of irritation is sometimes an intra-nasal anomaly, more often the disease of the tear passage itself.

The prognosis as to rapidity and permanency of cure is invariably better when the lacrymation is of the occasional, than when it is of the continuous, type. The difference in results in different patients is less due to the therapeutic method than to the nature of the disease.

The author recommends electrolysis of the duct in cases of stricture in which the probe can enter without undue force.

Treatment of Nasal Duct Obstructions.—Dr. Casey A. Wood (Chicago) insisted on the necessity of recognising the exact site of the disease, and exhibited mirrors devised for inspecting the lower extremity of the nasal duct. The extent of the obstruction is best shown by the permeability of the duct when water is injected through the canaliculus. For this purpose a syringe with a smaller point and a larger reservoir than those commonly employed was to be preferred. Best of all for the purpose is an irrigator consisting of a reservoir connected by flexible tube with the ordinary tip for the lacrymal syringe, and elevated about ten feet above the patient. Where probes are to be used, he teaches the patient to introduce them for himself,

in order that the introduction may be more frequently repeated and longer persisted in, this being necessary to a complete cure. Unless pretty good security is given for persistence in the treatment, the canaliculus should not be opened.

The Weiss Reflex as a Sign of Myopia.—Dr. B. Alex. Randall (Philadelphia), found that this curved reflex parallel and close to the nasal margin of the disc, was to be recognised very much more frequently if carefully looked for with a strong concave mirror, such a mirror being calculated to emphasise all the retinal reflexes. No positive statement can be made as to its significance, but it had been conspicuous in some cases of distending eye-ball. Cases of this sort, however, he usually placed under careful treatment, and farther increase of myopia in them was exceptional. It was also seen in eye-balls showing no tendency to distension, and, on the other hand, some cases of progressive myopia do not show it. Still, he was inclined to attach to it considerable importance when it was found to be present.

Spasm of Accommodation and Heterophoria.—Dr. A. R. Baker (Cleveland) reported a case of very persistent spasm of accommodation not permanently benefited by lenses or the application of a mydriatic, but relieved temporarily by tenotomy of the external rectus muscle.

He believed that nearly all troubles with the muscles of the eye are due to errors of refraction. Not infrequently, in correcting ametropia, he had found the equilibrium between accommodation and the efforts necessary for binocular vision so disturbed as to set up a new train of symptoms almost, if not quite, as annoying as those relieved by the use of glasses. Again, tenotomy for muscular asthenopia had relieved the patient of one kind of depressing symptoms only to subject him to others as bad, so that he was sceptical as to the benefit of tenotomy in any case in which prisms or the closing of one eye did not give at least partial relief.

In any case, he would first correct the existing error of

refraction. If the asthenopia were not thus cured, then resort to prisms and systematic exercise of the muscles. Where this gave no perceptible improvement, the condition, he believed, was the local expression of a general neurosis, often not amenable to ocular treatment.

Muscular Anomalies.—Dr. T. E. Murrell (Little Rock), reported his practical experience with this condition. He found the rod-test to be the best yet proposed, but thought no single test was absolutely reliable. No eyes subject to painful vision could be considered completely examined until tested as to their muscular balance. The share of ametropia in causing such conditions was not certain, but some cases are relieved by use of the correcting lens. Heterophoria is extremely common, and the physiological limits of its amount are quite variable. It is most frequently found and most difficult to relieve among the neurotic. Great variations in lateral balance are often connected with hyperphoria, but sometimes exist independently of it, and in some cases the hyperphoria is secondary to the lateral deviation. In adapting prisms, no rule can be laid down as to the proportion of the anomaly to be corrected; and, in individual cases, this must be largely a matter of experiment.

Convergent Squint and its Treatment.—Dr. J. A. Thompson (Kansas City) found the operation for convergent squint, when considered by the light of the ultimate result, one of the most difficult, uncertain, and unsatisfactory in ophthalmic surgery. Many patients never acquire binocular vision, because of some inability to join the two cerebral pictures of the same object. He believed that the principal cause of the difficulty of its correction was, that all of the muscles which turn the eye play an important part in its causation, and that both they and the connected fascia come to have altered relations with the eyeball, that are not re-adjusted by a simple tenotomy.

Glasses in children sometimes give relief, but rarely. When simple tenotomy is done, the effect of the operation

should be divided between the two eyes. He favoured the combination of tenotomy with advancement, but the advancement should always be capsular, since the relations of the capsule, equally with those of the tendon, require readjustment. He would do advancement upon one or both eyes, with or without tenotomy, in all cases after the thirteenth year.

Dr. F. C. Hotz preferred resection of the muscle to capsular advancement. By it, a firm hold was gained for the ocular end of the stitch. The muscle was more surely reattached in proper line, and the effect desired could be more exactly approximated. It must be accompanied by tenotomy of the opposing muscle.

Tenotomy for Relief of Eccentric Poses of the Head.—Dr. J. E. Colburn (Chicago) reported a series of cases in which, on account of inability to maintain binocular vision with comfort, with the head in normal position, it was carried forward, or backward, or to one side, with a corresponding distortion of the features, in order that binocular vision might be preserved. These cases revealed marked squint or heterophoria when the head and eyes were brought into the normal position. By appropriate tenotomy the field of easy binocular vision was brought into proper relation with the position of the head and eyes, and the abnormal carriage and distortion of the features were removed. Such a condition is a serious affliction, and liable to subject the patient to inappropriate treatment for wry-neck or spinal distortion.

Orbital Growths.—Dr. J. A. White (Richmond, Va.), reported the farther history of cases presented to the section last year, with two additional ones. The new cases were: one of fibro-sarcoma, filling the left orbit. This was extirpated, requiring the removal of the eye, which had not entirely lost its vision; there was no recurrence after several months. The second case was one of melanotic sarcoma of the choroid. The patient came for displacement of the left eye, which was painful and disfigured by a large black spot above and to the outer

side of the cornea. The eye was enucleated, and on microscopic examination the growth proved not to have penetrated the sclerotic.

Of the cases reported last year, one of melanotic sarcoma of the choroid has had no recurrence in the orbit, but is reported ill with some obscure liver trouble, probably a metastatic growth. Dr. White in a previous case, in which he had removed the larger part of the superior orbital plate, had not seen the expected recurrence in the orbit, the patient dying of malignant growth of the liver.

In the case of malignant fibroid of the orbit, the patient had reappeared in July with a recurrence of the tumour in the areas of the orbital wall, from which the periosteum had been stripped in the former effort to remove it. It was again removed so far as possible, a prolongation having passed backward into the sphenoidal fossa and through the ethmoid plate. The tumour remained quiet for three months, then began to grow again ; and in December presented a huge fundus protruding from the orbit. An unsatisfactory operation was performed for its removal, which did not check the growth. The patient died of exhaustion in February.

In the case of tuberculosis of the orbit, a growth appeared above the eyeball last autumn, and was removed in March. Microscopic examination showed it to be a small-celled sarcoma, which had involved the lacrymal gland.

In the case of fibroma of the orbit extending back into the sphenoidal fissure and expected to recur, no recurrence had taken place after eighteen months.

Exostosis of the Orbit.—Dr. R. F. LeMond (Denver) reported two cases ; the first was in a man aged 24. It had begun in the right orbit eighteen years previously, and the eye had been blind for sixteen years. After enucleation a bony mass was found occluding the optic foramen, the optic nerve being entirely destroyed. This was removed by chiselling.

In the second case, also in a man aged 24, the growth sprang from the floor of the orbit. The eyeball was pushed up and out. Vision remained = 7-20ths. Only partial removal was accomplished, but deformity was relieved and the case did well.

Dr. H. Knapp (New York) said that these tumours arose sometimes from the orbital walls, but more frequently from the accessory cavities surrounding the orbit. They are exceedingly dense, and effective removal is only accomplished by enucleating the growth, working in the healthy bone tissue adjoining it. These growths should not be left untouched, but should be removed at as early a stage as possible.

Cataract Lenses.—Dr. H. V. Würdemann (Milwaukee) called attention to the value of cemented bi-focal lenses after the extraction of cataract, giving the patient both near and distant vision without change of glasses. To avoid the apparent displacement of the ground, he resorted to appropriate decentering of the lenses.

Hypertrophic Conjunctivitis.—Dr. Cornelius Williams (St. Paul) preferred this name to trachoma, because it indicated the pathological condition present. He had seen the conjunctiva reach twenty times its normal thickness in as many days from infection. It occurs only by infection, and some abrasion of the conjunctiva is necessary. The cornea may become involved through the lymph channels. He favoured mild rather than severe applications, and employed a solution of mercuric chloride of such strength as not to cause serious reaction. The pain from its application should not last more than five minutes. It is important to watch for implication of the cornea and iris, and in cases in which it occurs to use a mydriatic early.

Artificial Ripening of Immature Cataract.—Dr. B. Bettman (Chicago) reported cases in which he had practised the direct trituration of the lens without iridectomy. In his experience the operation was never followed by iritis, dislocation of the lens, or other unfavourable results, and it

secured prompt, complete maturity of the cataract. Except in the case of completely sclerosed lenses, he doubted if it would be safe to extract when the fundus reflex was still visible. And when this was the case, and useful vision had been lost, artificial ripening was clearly demanded.

Cataract Extraction.—Dr. F. T. Smith (Chattanooga) reported a case successfully performed in a negro woman reputed to be 116 years old, probably not so old but presenting the evidences of extreme senility. With a convex 11 D. lens, vision equal to 20-20ths was obtained, and the extraction had greatly improved her general mental condition.

Dislocation of the Lens.—Dr. L. H. Taylor (Wilkesbarre) reported a case of double symmetrical dislocation, the lenses being displaced upward and outward; on account of the symmetry and direction of displacement he regarded the condition as congenital. All cases of traumatic dislocation, in his experience, had been downward.

Albinism of Eyes.—Dr. G. M. Gould (Philadelphia) reported eight cases occurring in two families, neither of which presented any history of similar or allied defects in the eyes of ancestors, or of intermarriage. All of the patients show, in other respects, excellent physical development; in both families, males and females were affected. There were intermediate children not albinos. He believed the transparency of the iris to be the significant condition, and the absence of pigmentation in skin, hair, and choroid to be of little importance. Nystagmus was to be regarded as the effort of healthy nerve centres to compensate for the faulty ocular apparatus, and to locate undefined images. Tatooing of the cornea he regarded as too radical an operation, but depended on the correction of the ametropia and the exclusion of light by an opaque diaphragm with a central opening.

Tumour of the Iris.—Dr. J. Schneider (Milwaukee) reported a case of progressive tumour, which, after removal,

proved to be a papilloma. He exhibited the specimen with the patient and drawings made at different stages.

Prevention of Blindness.—Dr. L. Howe (Buffalo) urged the importance of legislation for this purpose. The statistics furnished by the Census reports prior to 1880 were probably quite unreliable. However, the census of 1890 showed the number of blind to be 50,411—an increase of over 3 per cent. as compared with the preceding decade. Probably about five thousand of these are blind from neglect in early childhood. Laws compelling midwives to report all cases of sore eyes in infants under their charge had been passed in New York and a number of other States, but he was not aware of any case of conviction and punishment under them.

Dr. Randall hoped that there would be care not to make statements as to the certainty of preventing blindness too positive. He had seen recently both eyes lost in a case efficiently treated from birth.

Dr. Würdemann had seen three cases where there was purulent discharge at the time of birth. Two of these children soon died from marasmus.

A resolution was adopted, urging the importance of the subject upon the attention of the State Legislatures, and a Committee appointed to co-operate with other committees endeavouring to secure such legislation.

Classification of Diseases of the Eye for Hospital Statistics.—Dr. Edward Jackson (Philadelphia) urged the importance of uniformity, and the avoidance of opportunity for one surgeon to classify a certain group of cases under one head, while another placed them elsewhere. Any common system must be simple, but individual reporters might make subdivisions of the classes recognised in it. He favoured the adoption of English names; and the record of each case under the different headings of all the conditions present. A committee was appointed to consider the subject.

Scale for measuring the Strength of Prisms.—Dr. S. L. Ziegler (Philadelphia), presented such a scale with both

horizontal and vertical graduations. He had found it very convenient for ascertaining the strength either of simple or combined prisms, or the amount of heterophoria.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-ninth Annual Meeting, Held at New London, 1893.

Dr. George C. Harlan, Vice-President, in the Chair.

Ocular Reflexes in General Paralysis of the Insane.—Dr. Charles A. Oliver of Philadelphia presented a series of observations upon the relation of the patellar tendon reflexes to irregularities of the size and re-action of the pupils in the various stages of general paralysis. No constant relation was found between them.

Sarcoma of the Choroid.—Dr. Oliver reported a case of spindle-cell sarcoma of the choroid, with the study of the microscopic condition of the growth and the exhibition of slides. The patient, a man aged 34, five years previously had suddenly noticed objects dim to the right, when looked at with his left eye. This dimness gradually crept over the whole field of vision, causing blindness in a little more than three years. Three months before he was seen, an exacerbation of intense temporal neuralgia, more marked on the left side, supervened. The left eye began to diverge. Vision was absolutely lost. The optic disc was dimly seen through vitreous opacity. The growth sprang from the upper outer portion of the choroid and extended forward, downward, and inwards to a point immediately behind the lens. It was yellowish and vascular. The eye was enucleated; its external surface was found free from nodules or spots of involvement. Now, more than a year after the enucleation, the patient remains well.

The neoplasms proved to be a spindle cell sarcoma with cells small and uniform in size. There were numerous cavernous vascular spaces throughout the growth, and a variety of sinuses seemingly unconnected with the blood channels, in which there were large round pigmented cells, probably leucocytes loaded with pigment granules.

Dr. E. Gruening (New York) reported a case occurring in a woman, aged 30, who had noticed a dark spot before the right eye, but was still able to read large print. The ophthalmoscope showed at a distance of two diameters from the disc, a bluish gray prominence, with a diameter about four times that of the disc. The apex of the elevation was best seen with spherical + 10 D. The adjoining fundus with — 10 D. The retinal vessels were seen to pass uninterruptedly across it, and at a deeper level; vessels, belonging neither to the retina nor choroid, were seen as broad bands of equal calibre throughout, anastomosing freely. On these appearances the diagnosis of sarcoma without pigmentation was based. The eye-ball was enucleated, and the diagnosis corroborated. The case showed a choroidal sarcoma springing from the region of the macula, remaining for a long time in contact with the retina; it was diagnosed before the detachment of the retina or the onset of glaucomatous symptoms.

Sarcoma of the Lid.—Dr. Gruening reported a case occurring in a man, aged 23, who, five years previously, noticed a swelling of the right lower lid. The lid bled freely, and the tumour increased in size; three years before it had been operated upon. It had recurred, and reached the size of a hazel-nut, involving the outer two-thirds of the lower lid. On the conjunctival surface were nodular masses separated by deep fissures. Through the skin the tumour felt smooth, globular, and firm. On the conjunctival surface it was soft, and bled freely when gently handled. A small piece was excised, and by the microscope was found to be sarcoma. The outer two-thirds of the lower lid were included in the operation, and the whole mass removed and replaced by a piece of skin

from the temple. The tumour proved to be a spindle-celled sarcoma of fascicular structure, almost completely enclosed in a connective tissue capsule. He had been able to find accounts of fifteen cases of sarcoma of the lid, some circumscribed, others diffused. The latter generally grew rapidly into the orbit and destroyed life.

Dr. H. Knapp (New York) had recently seen two cases of traumatic sarcoma of the lids in children, both of them fatal by exhaustion. The nature of the condition was not recognised until the growths had attained a dangerous extent.

Tumour of the Iris.—Dr. Harlan reported the case of a boy previously healthy, who, when two and a-half years old, became restless, peevish, and developed bronchitis. After this, weakness of the right eye was noticed with photophobia and lacrymation. When first seen, the child was fairly nourished, had a sallow skin, troublesome cough, the glands and joints were healthy. The eye was irritable, watery, with marked peri-corneal zone. Several posterior synechiæ, and a number of small, yellowish-white, round nodules on the periphery of the iris. These increased rapidly in size, and others were added. The cornea became slightly hazy, and the outer third of the iris covered with yellowish gray deposit, extending from the angle of the anterior chamber nearly to the centre of the pupil. The mass was slightly vascular, and decided increase of size was noticed in two days. Enucleation was performed, the patient improved rapidly, and was discharged in five days, symptoms of irritation in the remaining eye having subsided. The child remained well, with increased weight, three months later. The bacteriological examination failed to demonstrate the presence of tubercular bacilli.

The Loss of Eyes by Purulent Conjunctivitis.—Dr. B. A. Randall, of Philadelphia, urged that while it was possible to save a large proportion of eyes thus affected, and while it was necessary to urge the importance of prophylactic and intelligent treatment upon both the profession and the public,

care should be taken not to give the impression that all of these cases were curable or preventable. He reported a case, in which, in spite of the usually efficient prophylactic measures, and the most careful attention from the beginning of the disease, both eyes were lost; the one after perforation, the other without perforation of the cornea. The trouble seemed to be some fault of general nutrition.

Dr. T. Y. Sutphen, of Newark, had seen a case similarly cared for, in which there resulted total leucoma in one eye, and a macula in the other.

Dr. Knapp thought it impossible to guarantee sight in any case of purulent conjunctivitis either of adult or child.

Dr. Gruening and others mentioned cases, in which the eyes of adults had become involved from those of new born children; and the disease so acquired had run a malignant course.

Notes on Refraction and Muscular Cases.—Dr. B. L. Millikin (Cleveland) urged the use of the ophthalmoscope as the most satisfactory method of testing refraction in very high degrees of astigmatism; he cited cases corrected by it, when the ordinary means of testing gave no satisfaction. One of these required a convex 4 D. cyl. combined with a concave 4 D. cyl. axis perpendicular, giving vision 6-9ths. In another case, right-10 D. cyl. axis 90°+7.00 D. cyl. axis 180°, vision 6-9ths partly; left—6 D. cyl. axis 100°+4 D. cyl. axis 10°, vision 6-9ths. The glasses had been worn for two years with the greatest comfort and satisfaction, the patient working at book-keeping; and vision had improved to 6-6ths. In correcting muscular insufficiencies with prisms, where there is a tendency to both vertical and lateral deviation, he had corrected both by a single prism with its base properly placed obliquely, and urged the trial of this method.

The Vertical Diplopia Test.—Dr. S. Theobald (Baltimore) read the notes of several cases of lateral heterophoria, in which this test had proved untrustworthy: showing either no defect, or a defect of the opposite kind, or a much smaller defect of the same kind than was seen by the test of

covering one eye and thus excluding it from vision. He used the test habitually and had rarely found it unreliable, but in these few cases it had clearly failed to show the true condition of rest; and it was not evident on what such failure depended.

Dr. H. D. Noyes, believed that we could not always, by the conditions of the diplopia test, remove the apparatus for the adjustment of the eyes to binocular vision from the cerebral influences that habitually control it.

Unabsorbed Lens Fragment in the Anterior Chamber.—Dr. Theobald reported the further progress of a case he had twice before presented to the Society (*see* Ophthalmic Review, vol. x, page 381). The eye had remained quiet and he had supposed the lens to be quite absorbed. But in October of last year, the eye became irritable and examination showed a fragment of the lens at the bottom of the anterior chamber. The patient stated it had been there for six months. The fragment was triangular with sharp edges, looking like a piece of yellow glass. It had been out of the capsule for two years. The case remained under observation for two months without change in the appearance of the fragment, the eye still remaining irritable. The pupil was then highly dilated, the patient placed face up; and by manipulation, the fragment readily returned to the vitreous chamber. Eserine was instilled and the eye became quiet, and had never given further trouble.

Detection of Colour Blindness.—Dr. Oliver presented a set of test wools, including five match skeins and eighteen confusion skeins of the same relative colour value.

Gouty Retinitis and Choroiditis.—Dr. Charles S. Bull (New York), in a paper based upon the retinal changes found in over 100 gouty patients, reported five cases, two of them with autopsies. He found the changes and the symptoms always bi-lateral, though they were rarely symmetrical. Degeneration in the walls of the blood vessels, and in the retina, caused marked impairment of central vision, and little or no impairment of peripheral vision, and

never complete blindness. The loss of central vision is always progressive up to a certain point, unless the cause of the disease is recognised early and immediately and properly met by treatment. Improvement of vision after the disease is established cannot be expected. Hæmorrhages into the retina are rare, except in the beginning of the disease. Their absence later is probably due to the fact that the strength of the vessel wall is increased by the deposit, though its elasticity is diminished.

The most marked feature in the fundus is the development of the arterio-sclerosis and phlebo-sclerosis. This is seen by the ophthalmoscope in the vessels of the retina, and the microscope shows that the degeneration exists as well in the vessels of the choroid and optic nerve. Another almost equally pathognomonic symptom is the peculiar yellowish granular exudation in the retina, seen by the ophthalmoscope. This is located around the posterior pole of the eye, generally leaving the macula intact. It was proved by the microscope to be mainly in the nerve fibre layer, though found in all the layers of the retina, except that of the rods and cones. The changes in the optic nerve fibres seem to be almost entirely intra-ocular, and cannot be traced for any great distance back from the eyeball.

Dr. Knapp, among many cases that presented such ophthalmoscopic appearances, could recall but three in gouty persons. In one of these changes were monocular. In the other two, some of the spots in the retina followed hæmorrhage.

Dr. Noyes believed that arterio-sclerosis and phlebosclerosis were at the bottom of these changes; he failed to see any difference between the changes present here and those occurring in cases of diabetes mellitus.

Dr. Randall called attention to the work of Meigs, with whom he had studied the subject. They had obtained most marked specimens of these vascular changes, in other parts of the body, from young children; and in them the degeneration of the veins often exceeded that of the arteries.

Dr. S. D. Risley thought this was one of several allied groups of cases, and suggested that such changes might result from prolonged local irritation.

Retinitis Punctata Albescens.—Dr. Myles Standish of Boston read a paper on this affection [see page 253.]

Suction for Hard Cataract.—Dr. Lucien Howe, of Buffalo, alluded to the difficulty sometimes experienced in removing the lens after its engagement in the corneal incision. In order to meet this, he had resorted to a tube somewhat like a large dropping pipette, the end of which was of very thin glass, oval, and the size and form to fit the edge of the projecting lens. To produce the vacuum, various methods had been tried; but suction with the mouth, through a flexible rubber tube, was found the most satisfactory.

Dr. Gruening, when he found the section too small, was accustomed to enlarge it with scissors.

Dr. A. Mathewson, of Brookyln, when the lens seemed to stick in the incision, had an assistant seize it with a double hook at one end of the incision, and rotate it about the edge that lay in the other end of the incision.

Mask for use after Cataract Extraction.—Dr. F. W. Ring (New York) presented a mask made of *papier maché* and lined with linen and silk, to be applied with, or without other dressings after cataract extraction.

Dr. Noyes had used it with satisfaction to himself and his patients.

Dr. Risley had used a wire screen of this sort, and noticed that it gave the patient a gratifying sense of security.

The Artificial Ripening of Cataract.—Dr. Edward Jackson (Philadelphia) reported his experience with the method by massage through the cornea after paracentesis without iridectomy, an operation suggested by Pooley of New York, and practised by Dr. White of Richmond, [*see* Ophthalmic Review, 1892, p. 250]. He had resorted to it in seven cases of incomplete striated cloudy opacities of the cortex and poles of the lens. It was followed by very little reaction, there being no iritis or posterior synechia in any case. In all patients over 50 years of age, five in number, the operation was followed by rapid increase in

the opacity of the lens, and maturity of the cataract in periods varying from two weeks to three months. In four cases under 35 years of age, two in the practice of a colleague, no effect on the lens opacity was produced. In the cases ripened by it, extraction had been uncomplicated and healing normal; and good vision had been obtained without any secondary operation. He concluded that the method was more efficient than that of iridectomy and massage; was apparently free from danger, and in many cases a better means of avoiding prolonged practical blindness than the extraction of immature cataract.

Dr. Noyes thought such an operation unsuited to cases in which the whole lens was hard.

Dr. Knapp preferred the risks of extraction of immature cataract to the risks of an operation for preliminary ripening.

Dr. Gruening no longer resorted to operations to hasten maturity. In old patients he extracted without waiting; in the young, he advised waiting for maturity without interference.

Dr. Risley believed that for a limited group of cases, operations to hasten ripening were desirable.

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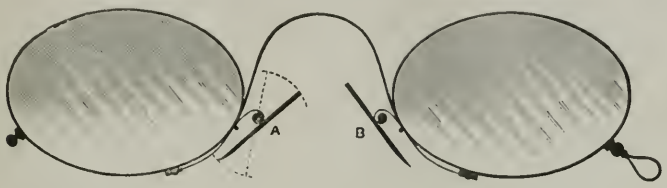

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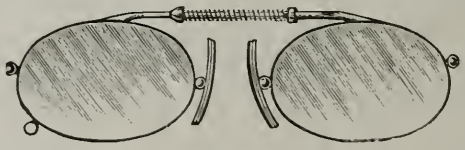

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